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September \_\_, 2004

Mail Stop Amendment  
Commissioner For Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Applicant(s): Timothy R. Piwonka-Corle  
Title: Focused Beam Spectroscopic Ellipsometry Method And System  
Application No.: 10/716,805 Filing Date: November 18, 2003  
Examiner: Rossenberger, R.A. Group Art Unit: 2877  
Docket No.: TNCR.059US6 Conf. No.: 8189

Dear Sir:

Transmitted herewith are the following documents in the above-identified application:

- (1) Return Receipt Postcard;
- (2) This Transmittal Letter (1 page)
- (3) Information Disclosure Statement (2 pages);
- (4) PTO Form 1449 (14 sheets); and
- (5) Check for \$180.00.

Please charge any additional fees required and credit any overpayment to our  
Deposit Account No. 502664.

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Commissioner for Patents, P.O. Box 1450, Alexandria, VA  
22313-1450, on September 17, 2004.

Franklin Dyer

Respectfully submitted,

James S. Hsue  
Reg. No. 29,545

Date

9/17/04



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Timothy R. Piwonka-Corle  
Title: Focused Beam Spectroscopic Ellipsometry Method And System  
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**INFORMATION DISCLOSURE STATEMENT**

Dear Sir:

Pursuant to 37 C.F.R. §§ 1.56, 1.97 and 1.98, Applicant(s) call(s) the documents listed on the enclosed Form PTO-1449 and copies filed herewith to the Examiner's attention in this patent application.

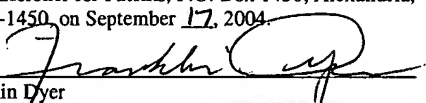
This application has a filing date after June 30, 2003. Copies of the U.S. Patent(s) and U.S. Published Patent Application(s) documents listed on the accompanying Form PTO-1449 are not enclosed. Copies of the documents listed on the accompanying Form PTO-1449 that are not enclosed were previously submitted in Application No. 09/248,876, from which this Application claims an earlier effective filing date.

Citation of these documents shall not be construed as (1) an admission that the documents are prior art with respect to the invention or inventions claimed in this application, (2) a representation that a search has been made (other than as indicated by any cited document), or (3) an admission that the cited information is, or is considered to be, material to patentability as defined in § 1.56(b).

Attorney Docket No.: TNCR.059US6

Application No.: 10/716,805

This information disclosure statement is submitted under 37 C.F.R. § 1.97(c). A check including \$180.00 for the information disclosure statement fee under 37 C.F.R. § 1.17(p), is enclosed. The Commissioner is authorized, however, to charge any fee that may be required, or to credit any overpayment, against Deposit Account No. 502664. This form is being submitted in duplicate.

<p align="center"><u>Certificate of Mailing Under 37 CFR 1.8</u></p> <p>I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope address to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on September 17, 2004.</p> <p> Franklin Dyer</p>
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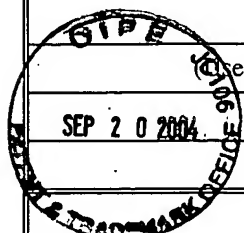
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*Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
	1	3,874,797	4/1975	Kasai			
	2	4,645,349	2/1987	Tabata			
	3	4,653,908	3/1987	Yajima et al.			
	4	4,653,924	03/31/87	Itonaga et al.			
	5	4,655,595	04/07/87	Bjork et al.			
	6	4,672,196	06/09/87	Canino			
	7	4,692,024	09/08/87	Bloss			
	8	4,790,659	12/1988	Erman et al.			
	9	4,810,872	3/7/89	Murakoshi et al.			

## U.S. Published Patent Application Documents

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## Foreign Patent Documents

							Translation	
		Document	Date	Country	Class	Subclass	Yes	No
	10	EP652415A1	5/10/9S	Europe				
	11	11342936	5/25/89	Japan			Yes	
	12	2602338A	2/5/88	France			Yes	
	13	63500263	1/28/88	Japan			Abstract	
	14	6332338	2/12/88	Japan			Abstract	
	15	63243836	10/11/88	Japan			Abstract	
	16	2126106	5/15/90	Japan			Abstract	
	17	1132935	5/25/89	Japan			Yes	
	18	214057	1/29/90	Japan			Yes	
	19	2118247	9/21/90	Japan			Abstract	

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	20	4,834,539	05/30/89	Le Bris et al.			
	21	4,957,368	09/1990	Smith			
	22	4,999,014	03/12/91	Gold et al.			
	23	5,042,951	08/27/91	Gold et al.			
	24	5,048,970	9/17/91	Milosevic et al.			
	25	5,076,696	12/31/91	Cohn et al.			
	26	5,091,320	02/25/1992	Aspnes et al.			
	27	5,096,298	03/17/92	Isobe			
	28	5,159,412	10/27/92	Willenborg et al.			

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	29	2297008	7/12/90	Japan			Abstract	
	30	378645	4/3/91	Japan			Abstract	
	31	4340404	11/26/92	Japan			Abstract	
	32	5264355	10/12/93	Japan			Abstract	
	33	5296841	11/12/93	Japan			Abstract	
	34	6341952	12/13/94	Japan			Abstract	
	35	7198342	8/1/95	Japan			Abstract	
	36	8500432	1/16/96	Japan			Abstract	
	37	SU947641	6/30/80	U.S.S.R.			Abstract	
	38	SU987410	5/18/81	U.S.S.R.			Abstract	

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	40	5,181,080	Jan. 19, 1993	Fanton et al.			
	41	5,189,481	2/1993	Jann et al.			
	42	5,208,451	05/04/1993	Deck			
	43	5,237,167	08/17/1993	Hibbard			
	44	5,251,007	10/1993	Rinke			
	45	5,262,845	11/16/93	Milosevic et al.			
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	47	5,307,210	4/26/94	MacFarlane et al.			

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	48	SU1288558A1	4/20/83	U.S.S.R.			Abstract	
	49	SU1160810A1	4/20/83	U.S.S.R.			Abstract	
	50	SU1140009A	7/18/83	U.S.S.R.			Abstract	
	51	SU1141297A	10/18/83	U.S.S.R.			Abstract	
	52	SU1157416A	12/26/83	U.S.S.R.			Abstract	
	53	SU1260697A1	7/4/84	U.S.S.R.			Abstract	
	54	SU1369471A	2/28/86	U.S.S.R.			Abstract	
	55	SU1337860A1	9/15/87	U.S.S.R.			Abstract	
	56	SU1571419A1	12/28/87	U.S.S.R.			Abstract	
	57	SU1695145A1	8/3/88	U.S.S.R.			Abstract	

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	58	5,329,357	07/12/94	Bernoux et al.			
	59	5,333,052	7/26/94	Finarov			
	60	5,406,082	4/11/95	Pearson et al.			
	61	5,412,473	May 2, 1995	Rosencwaig et al.			
	62	5,450,201	9/12/95	Katzir et al.			
	63	5,483,347	01/09/1996	Hollmann			
	64	5,485,271	1/16/96	Drevillon et al.			
	65	5,486,701	01/23/1996	Norton et al.			
	66	5,517,032	5/14/96	Imani			

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67	"A broadband UV small spot spectroscopic ellipsometer," T.R. Corle et al., <i>Proceedings of SPIE - The International Society for Optical Engineering, Integrated Circuit Metrology, Inspection, and Process Control IX</i> . Vol. 2439, February 1995, pp. 114-125.	
68	"A combined spectroscopic ellipsometer and spectrophotometer," J.J. Estabil et al., <i>Solid State Technology</i> , Vol. 38, No. 4, April 1995, pp. 71-72.	
69	"A double polarization modulation far-infrared spectrometer," V.M. Da Costa et al., <i>Rev. Sci. Instrum.</i> , Vol. 61, No. 8, August 1990, pp. 2113-2120.	

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	70	5,517,312	5/14/96	Finarov				
	71	5,541,413	7/30/96	Pearson et al.				
	72	5,595,916	1/21/97	Fujimura et al.				
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	74	5,627,671	May 6, 1997	Yamura et al.				
	75	5,764,365	6/1998	Finarov				
	76	5,798,837	8/25/98	Aspnes et al.				
	77	5,910,842	6/1999	Piwonka-Corle et al.				
	78	5,973,787	10/26/99	AspnM et al.				
	79	5,978,074	11/2/99	Opsal et al.				
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		Document	Date	Country	Class	Subclass	Yes	No
<b>OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)</b>								
	80	"A Method for Measuring Infrared Reflection-Absorption Spectra of Molecules Adsorbed on Low-Area Surfaces at Monolayer and Submonolayer Concentrations," W.G. Golden et al., <i>Journal of Catalysis</i> , Vol. 71. 1981. pp. 395-404.						
	81	"A New Micro Spectroscopic Ellipsometer for On Line Control in Silicon Industry Developed for Tencor Prometrix," J.L. Stehle et al., WISE '95 Workshop International on Spectroscopic Ellipsometry," February 1995.						
	82	"A reflectance anisotropy spectrometer for real time crystal growth investigations," O. Archer et al., <i>SPIE</i> , Vol 1361, 1990, pp. 1156-1163.						
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	83	"A reflectance anisotropy spectrometer for real-time measurements," O. Archer et al., <i>Rev. Sci. Instrum.</i> , 63(11), November 1992, pages 5332-5339.	
	84	"Accuracy of Determining Optical Constants of Absorbing Substances by Reflection in an Arrangement Using a Polarizer and Analyzer," A.P. Prishivalko, <i>Optika II Spectroscopiya</i> , 10, 1961, pp. 131-135.	
	88	"Adsorbate-Induced Reconstruction of p(2x2)X Adlayers On Ni(100)," J. Benziger et al., <i>Langmuir</i> , Vol. 4, No. 2, 1988, pp. 268-276.	
	86	"An Ellipsometry System for High Accuracy Metrology of Thin Films," G.A. Candela et al., <i>Proceedings of SPIE-The International Society for Optical Engineering, Integrated Circuit Metrology II</i> , Vol. 480, 1984, pp. 2-8.	
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	88	"Angular scanning mechanism for ellipsometers," D.M. Byrne et al., <i>Applied Optics</i> , Vol. 30, No. 31, November 1, 1991, pp. 4471-4473.	
	89	"Anhang: Weitere 'dielectriche Funktionen,'" No author, publication name or publication date provided) (English translation of page 143 only).	
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	91	"Apparatus for the Study of Silicon Film Deposition and Silicon Etching," J.B. Benziger, Department of Chemical Engineering, Princeton University, Princeton, New Jersey, Final Report Submitted to Air Force Office of Scientific Research. Report No.: AFOSR-TR-87-1588. July 31, 1987. 3 pages.	
	92	"Application of the polarization modulation Fourier transform infrared spectroscopy for the <i>in situ</i> study of spontaneously adsorbed monolayers," M. Gatin et al., <i>Vibrational Spectroscopy</i> , Vol. 5, 1993, pp. 255-261.	
	93	"Applications of IR Ellipsometric Spectroscopy to Surface Studies," J.D. Fedyk et al., <i>Surface Science</i> , Vol. 89, 1979, pp. 404-424.	
	93	"Applications of the Theory of Optical Spectroscopy to Numerical Simulations," M. Milosevic et al., <i>Applied Spectroscopy</i> , Vol. 47, No. 5, 1993, pp. 566-574.	
	95	"Automated spatially scanning ellipsometer for retardation measurements of transparent materials," J.E. Hayden et al. <i>Applied Optics</i> , Vol. 32, No. 31, November 1, 1993, pp. 6256-6263.	
	96	"Automatic Ellipsometer with High Sensitivity and Special Advantages of Infrared Spectroscopy of Adsorbed Species," R.W. Stobie et al., <i>Applied Optics</i> , Vol. 14, No. 4, April 1975, pp. 999-1003.	
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	97	"Automatic Ellipsometry System," M.I. Yelinson, <i>Elektronnaya Promyshlennost'</i> , No. 10-11, 1982, pp. 100-103 (English translation of page 100 only).	
	98	"Broadband spectroscopic ellipsometry based on a Fourier transform spectrometer," A. Gombert et al., <i>Thin Solid Films</i> , Vol. 234, 1993, pp. 352-355.	
	99	"Characterization of layer systems by means of spectroscopic ellipsometry in the far infrared," Dissertation by Georg Dittmar, from Rhein/Westfalie Technical University (RWTH) in Aachen, June 1994 (English translation of introduction only).	
	100	"Characterization of Platinum Electrodes by Infrared Spectroscopy," J.B. Benziger et al., <i>J. Electroanal. Chem.</i> , Vol. 198, 1986, pp. 65-80.	
	101	"Characterization of the accretion of material by microparticles using resonant ellipsometry," L.M. Folan, <i>Applied Optics</i> , Vol. 31, No. 12, April 20, 1992, pp. 2066-2071.	
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	103	"Checking the Parameters of Epitaxial Structures by Infrared Ellipsometry," V.V. Batavin et al., <i>Elektronnaya Promyshlennost'</i> , Vol. 5, No. 42 (1974), pp. 42-45 (English translation of page 42 only).	
	104	"Chemical and Structural Analysis by Ellipsometry and X-Ray Reflectometry of Thin Sulfide Layers Grown On InP," M. Gendry et al., <i>Applied Surface Science</i> , Vol. 44, 1990, pp. 309-320.	
	105	"Complete measurement of Kerr parameters by using rotating analyzer magneto-optic spectroscopy," L.-Y. Chen et al., <i>Proceedings of SPIE-The International Society for Optical Engineering, Polarization Analysis and Measurement</i> , Vol. 1746, 1992, pp. 307-315.	
	106	"Considerations in building a low-noise reflection absorption infrared spectrometer," J.B. Benziger et al., <i>Applied Optics</i> , Vol. 26, No. 2, January 15, 1987, pp. 343-350.	
	107	"Contrast and Resolution of Ellipsometric Microscopy," Yu. A. Kontsevoi et al., <i>Zavodskaya Laboratoriya</i> , Vol. 9, 1993, pp. 26-29 (English translation of page 26 only).	
	108	"Design and construction of three infrared ellipsometers," T.A. Leonard et al. <i>Optical Engineering</i> , Vol. 21, No. 6, December 1982, pp. 971-975.	
	109	"Design of a New <i>In Situ</i> Spectroscopic Phase Modulated Ellipsometer," B. Drevillon et al., <i>Proceedings of the SPIE - The International Society of Optical Engineering, Multichamber and In-Situ Processing of Electronic Materials</i> , Vol. 1188, 1989, pp. 174-184.	
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	111	"Double film thickness measurements in the semiconductor industry," R.F. Spanier, <i>Proceedings of SPIE - The International Society of Optical Engineering, Integrated Circuit Metrology</i> , Vol. 342, May 1982, pp. 109-120.	
	112	"Effect of light-beam convergence in an ellipsometer," A.I. Semenenko et al., <i>Sov. Tech. Phys. Lett.</i> , Vol. 3, No. 12, December 1977, pp. 538-540 (both English and Russian versions submitted).	
	113	"Electronic states and thicknesses of GaAs/GaAl As quantum wells as measured by electroreflectance and spectroscopic ellipsometry," M. Erman et al., <i>J. Appl. Phys.</i> , Vol. 56, No. 11, December 1, 1984, pp. 3241-3249.	
	114	"Ellipsometric Investigation of Transition Layer Heterostructures," S.A. Titov et al., <i>Instruments and Experimental Techniques</i> , Vol. 37, No. 4, Part 2, July-August 1994, pp. 475-478.	
	115	"Ellipsometric Studies of the Surface of Local Objects In a Focused Light Beam," Y.V. Spesivtsev et al., <i>In Ellipsometry: theory, methods and applications</i> (Nauka, Novosibirsk, 1994), pp. 84-89 (English translation of page 84 only).	
	116	"Ellipsometric tomography," V.A. Kotenev, <i>Proceedings of SPIE - The International Society for Optical Engineering, Analytical Methods for Optical Tomography</i> , Vol. 1843, November 1991, pp. 259-269.	
	117	"Ellipsometry based on a convergent light beam," K.K. Svitashv et al., <i>Opt. Spectrosc.</i> , Vol. 34, No. 5, May 1973, pp. 542-544 (both English and Russian versions submitted).	
	118	"Ellipsometry of a convergent beam in the far infrared," A.B. Sushkov et al., <i>Opt. Spectrosc.</i> (USSR), Vol. 72, No. 7, February 1992, pp. 268 (both English and Russian versions submitted).	
	119	"Experimental aspects of attenuated total reflectance spectroscopy in the infrared," V. Offermann et al., <i>Vibrational Spectroscopy</i> , Vol. 8, 1995, pp. 135-140.	
	120	"Extension of Ellipsometry to the Case of High-Reflectance Small Samples and Long-Wavelength Radiation," A.B. Sushkov et al., <i>Optics and Spectroscopy</i> , Vol. 76, No. 3, March 1994, pp. 407-413.	
	121	"Extension of spectroscopic ellipsometry to the far infrared," G. Dittmar et al., <i>Thin Solid Films</i> , Vol. 234, Nos. 1-2, 1993, pp. 346-351.	
	122	"Far-infrared ellipsometer," K.L. Barth et al., <i>Rev. Sci. Instrum.</i> , 64(4), April 1993, pp. 870-875.	
	123	"Far-IR spectroscopic ellipsometer," K.-L. Barth et al., <i>Thin Solid Films</i> , Vol. 234, 1993, pp. 314-317.	
	124	"Fast polarization modulated ellipsometer using a microprocessor system for digital Fourier analysis," B. Drevillon et al., <i>Rev. Sci., Instrum.</i> , Vol. 53, No. 7, July 1982, pp. 969-977.	
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